

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF NEW MEXICO**

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SECURITIES AND EXCHANGE  
COMMISSION,

Plaintiff,

v.

No. CIV 98-860 BB/RLP

SOLV-EX CORPORATION, JOHN S.  
RENDALL, and HERBERT M.  
CAMPBELL,

Defendants.

**COURT'S FINDINGS OF FACT  
AND CONCLUSIONS OF LAW**

THIS MATTER came on for a trial to the Court without a jury on December 20, 21, 22, and 23, 1999, and February 24, 25, 28, and 29, 2000, and all evidence having been presented, having considered the parties' proposed findings and conclusions, and having reviewed the relevant law, the Court now makes its findings of fact and conclusions of law:

**Findings of Fact**

**History and Background of the Defendants**

1. Solv-Ex, a New Mexico corporation, was formed in 1980 to engage in research and development of improving, as well as developing, technology to process and recover bitumen (heavy, low specific gravity crude oil) from oil sands. Ex. 863, pp. 1, 42.

Solv-Ex publicly raised several million dollars through an initial public offering and private offerings to engage in such research and development activities.

2. John Rendall was the principal founder of Solv-Ex. Since its inception, Mr. Rendall has been Solv-Ex's Chairman, CEO, and largest individual shareholder. As Solv-Ex's Chairman and CEO, Mr. Rendall has been involved in all significant matters involving the Company.
3. Mr. Rendall obtained his post graduate diplomas in chemistry and chemical engineering from Kings College in London following an undergraduate degree in mechanical engineering from Birla Institute of Technology in Pilani, India. Prior to incorporating Solv-Ex, Mr. Rendall's professional career for the period 1959 through 1979 involved designing, commissioning, operating and managing more than ten chemical, petrochemical and industrial plants in England. Mr. Rendall joint-ventured a company he started with Rio Tinto Zinc ("RTZ") to market his extractive processes, including technology to make oil from oil sands. The Athabasca sand in the northern region of Alberta, Canada, contains a heavy oil commonly known as bitumen. In connection with the RTZ joint venture, Mr. Rendall established a process that extracted oil from the Athabasca tar sands and assisted in the construction of a pilot plant to test that process located near Fort McMurray, Alberta, Canada, in 1976. The process involved the use of solvents in extracting oil from tar sands. In 1979, Mr. Rendall discovered that a commonly available piece of equipment, known as a logwasher, could separate

oil from the crushed rocks, sand, water and fine clay residue and he patented that process.

4. In the 1980's, Solv-Ex built a pilot plant and laboratory in Albuquerque, New Mexico to further develop, test and improve upon the process for extracting oil from bitumen. At the time, the process was a solvent assisted hot water process intended to provide high bitumen recovery rates for a wide range of ore grades, while producing waste tailings which were more environmentally acceptable.
5. In 1988, Solv-Ex acquired 100% of the working interest in the Bitumount lease in Alberta, Canada, known as "Lease 5" which covered 5,874 acres. On January 6, 1989, Drs. George S. Pemberton and Michael S. Ranger, Professors of Geology at the University of Alberta, issued a report entitled "Geology of the Solv-Ex Corporation Athabasca Oil Sands Lease Including Bitumen and Titanium Reserve," which estimated reserves at 1.127 billion barrels of bitumen.
6. In May 1992, Herbert Campbell joined Solv-Ex as senior vice-president and general counsel. Prior to joining Solv-Ex, Mr. Campbell had worked in various management positions for mining companies, including the raising of venture capital. Since NASDAQ had threatened to suspend the listing for Solv-Ex, one of his first duties was to satisfy the demands of that stock exchange. His other duties included preparation of a business plan to assist in raising working capital for Solv-Ex, negotiating and preparing an agreement with the Alberta Oil Sands Technical Research Authority to

fund pilot plant testing of bitumen tailings, and engaging in efforts to raise capital to build a minerals processing plant. Later, Mr. Campbell's duties covered negotiating and preparing the acquisition of another oil sands lease in the Athabasca region, negotiating and preparing agreements with outside consultants who assisted Solv-Ex in the evaluation and development of its processes, and raising capital to build oil extraction and minerals production facilities. Mr. Campbell also assumed primary responsibility for drafting press releases and reviewing public statements about those projects, and handling shareholder relations as well as performing the duties of Corporate Secretary and General Counsel for Solv-Ex.

### **Bitumen Production**

7. In a conference call held on May 18, 1995, Mr. Rendall indicated that a marketing contract for the oil is at hand and should be announced before "we get into financing." Ex. 769, pp. 6, 8.
8. In June 1995, Solv-Ex signed a letter of intent with Gibson Petroleum Company, Ltd. ("Gibson") to enter into a marketing agreement whereby Gibson would market a visbroken bitumen product to be produced by Solv-Ex at a proposed plant to be built at Lease 5. Ex. 107. Visbreaking is a thermal process utilized to break down heavy molecules into lighter molecules, in order to produce from bitumen a lighter product such as gasoline, as well as a heavy residue product. Logwinuk trial testimony.

9. According to Mr. Campbell, the Gibson letter of intent was particularly important because unless you had a market outlet for it, financing would not follow.
10. On July 24, 1995, Solv-Ex announced in a press release that it acquired the Fort Hills oil sands lease, located adjacent to Lease 5, covering approximately 50,000 acres and containing, according to preliminary estimates, approximately 3 billion barrels of recoverable oil. Ex. 775, ¶ 1.
11. By August 1, 1995, Solv-Ex reported to its shareholders that the permit applications and Environmental Impact Assessment for development of Lease 5 had been filed with the Canadian government. Ex. 776, p. 1.
12. In the September 26, 1995 press release, Mr. Rendall stated that the upgraded bitumen process together with the Gibson marketing agreement “assures product marketability and should yield production in excess of design capacity of 14,000 barrels a day of heavy oil, according to the final audit report.” Ex. 781, ¶ 1. Plant “commissioning ... (is) targeted for late 1996.” Id., at ¶ 5. Financial presentations have been well received, according to Solv-Ex’s financial consultant, Charter Oak Capital. Id., at ¶ 6. The proposed plant was to consist of four logwasher “circuits.” Exs. 104, 106, 506.
13. In the November 21, 1995 conference call, Mr. Rendall was optimistic that the company was positioning itself to have enough money to keep track with its present construction schedule. Ex. 785, p. 7.

14. In the December 12, 1995 press release, Solv-Ex announced that it received formal approval from the Alberta Energy and Utilities Board to proceed with construction on Lease 5 of the oil extraction plant (with subsequent construction of a minerals processing plant to follow). Ex. 787, ¶¶ 1, 2. The target date for commencing production of the oil extraction facility was to be late 1996 or early 1997. Id., at ¶ 5. The capacity could exceed 10,000 barrels of oil per day depending on the blend and the feed rate of the bitumen. Id., at ¶ 1. At the request of Solv-Ex, the permit characterized the plant or project as “experimental” in order to ensure that: (i) the royalty to be received by the Crown on production would be limited to one percent (1%) until Solv-Ex requested commercial status for the plant; (ii) Solv-Ex would not be prejudiced in applying for certain research and development tax credits for the new plant under Canadian tax law; and (iii) no public hearings would be needed to secure the additional necessary permits. Ex. 520.
15. There are three generally accepted steps in the evolution of taking an idea from the drawing board to producing a product or deriving or improving upon a process to achieve commercial production. First, the initial discovery, testing and development of the process or product is done under controlled laboratory conditions or “bench scale” testing. Second, the product or process should be tested and proven in an intermediate step, usually, a pilot plant or prototype model, that is larger and more elaborate than the laboratory, but not fully up to scale of a commercial application.

Third, the process or product must be proven in a commercial plant. The likelihood of a financially viable project cannot be reliably predicted until the process reaches this third stage. Solv-Ex operated its bitumen extraction technology only at the laboratory and pilot plant scale from February 1995 through December 1996. At the production level, it never successfully proved its bitumen process.

16. On January 17, 1996, Solv-Ex announced in a press release that it had entered into a letter of intent with Ledcor Industries, Ltd. for construction of the planned 14,000-barrel-per-day oil extraction and upgrading plant on Lease 5 (at an estimated capital cost of \$100 million). Ex. 792, ¶ 1.
17. Solv-Ex raised \$73 million from various sources, including investors, in 1996.
18. Mr. Rendall stated in a conference call on February 9, 1996 that Solv-Ex's objective was to produce oil at \$5 to \$6 per barrel in early 1997. Ex. 795, pp. 4, 5. Mr. Rendall also stated that approximately \$200 million was needed to complete all of Solv-Ex's projects. Id., at p. 9.
19. In a conference call on March 26, 1996, Mr. Rendall stated that the schedule envisioned pouring concrete foundations for the oil extraction facility after the harsh winter ends and meeting the objective of completing construction by year-end, with planned cash flow by mid-1997 and full production by year-end 1997. Ex. 802, pp. 3, 14, 15.

20. In the August 19, 1996 conference call, Mr. Rendall expressed Solv-Ex's intent, based upon available capital, to start production in the first quarter of 1997.
21. In the August 22, 1996 press release, Mr. Rendall stated, "We have sufficient funds on hand to ensure our facility will become operational on a commercial basis... (and) that the project is on schedule and under budget" during the first quarter of 1997. Ex. 812, ¶ 2. Mr. Rendall also stated that there were delays in completing total financing caused by skeptical reports in the media about the viability of the Solv-Ex bitumen extraction process. Ex. 812, ¶ 3. Mr. Rendall further stated that "it has been necessary for us to adapt to the new circumstances in order to begin generating positive cash flow early next year and reach full production of pipelineable oil products later in the year." Id.
22. In the August 26, 1996 conference call, Mr. Rendall reported that construction was continuing and that Solv-Ex had sufficient funds to complete a version of the oil extraction plant utilizing only one logwasher circuit having a capacity of 5,000 barrels per day. Ex. 813, pp. 4-5. He expressed the belief that Solv-Ex had the funds available to get into cash flow in the first quarter of 1997 if the plant was commissioned.
23. At about this time, Solv-Ex realized they could not afford a visbreaker, so they decided to try to filter the bitumen to produce a much coarser product. In an August 26, 1996 letter to shareholders, Mr. Rendall stated that, although Solv-Ex still intended to produce "in excess of 14,000 per day of pipelineable oil ...in 1997," the company would instead commence production in early 1997 of "100,000 barrels per month" of



filtered bitumen which would be “readily marketable” as a means of generating cash flow. Ex. 20. He publicly announced in the August 26, 1996 letter that Solv-Ex had now established through internal and independent testing that it could consistently produce filtered bitumen from Lease 5 which met the .5% solids specification necessary for marketability without using a visbreaker. Id.

24. Contrary to these statements, the independent lab work on filtration performed for Solv-Ex in August 1996 was not conducted on material from Lease 5; rather, it was conducted on a reconstituted material made from previously-processed oil sands extracted from a location outside Lease 5. Metcalf I, 140-143; Ex. 112. Unprocessed bitumen is very difficult to filter because of its viscosity, “like trying to filter cold molasses or tar.” Logwinuk trial testimony. Nor did the results of prior tests justify the conclusion Solv-Ex could consistently produce marketable bitumen through filtration.
25. To be salable, the bitumen recovered from oil sands must contain no more than .5% solids after it is separated from the sand. Ex. 20. To be pipelineable, bitumen must be “residue free.” Ex. 104; Logwinuk trial testimony. Bitumen which cannot be transported by pipeline must be transported to buyers by truck. Exs. 104, 106.
26. Both Campbell and Rendall knew the letter of intent with Gibson required a visbroken product and that they had not even presented a marketing arrangement for filtered bitumen.

27. Solv-Ex also had no proven ability to filter bitumen. On October 1, 1996, Solv-Ex submitted an order to the Mott Corporation to begin design and construction of a 44-inch filter for installation at the Lease 5 plant in hopes it could be used on a production level to filter the bitumen.
28. In the October 18, 1996 conference call, Mr. Rendall stated that he saw no delays to the company's targets for completing the oil extraction plant for commissioning in the first quarter of 1997. Ex. 824, p. 1.
29. In an October 14, 1996 telephone conference call with investors, securities analysts and broker-dealers, Mr. Rendall reiterated that production of filtered bitumen would commence during the first quarter of 1997. Ex. 25. During the same conference call, Mr. Campbell stated that the bitumen to be produced would meet "commonly accepted specifications, both in terms of contained water and solids." Ex. 25, p. 3.
30. On October 28, 1996, Solv-Ex announced that it was "on target to achieve production of heavy oil during the first quarter of 1997" at Lease 5. Ex. 26A. In the press release, Solv-Ex characterized the anticipated start-up as "a 'major milestone' which will establish the capabilities of its technology on a fully operational basis." Ex. 26A.
31. On November 27, 1996, Solv-Ex reiterated that it was currently constructing its Lease 5 plant, "with production scheduled for the first quarter of 1997." Ex. 29.

32. When it was clear the 44-inch filter would not be ready, Mr. Rendall directed Solv-Ex personnel to order a prototype 24-inch diameter Mott filter during November 1996.

Fox testimony.

33. In the December 3, 1996 conference call, Mr. Rendall stated:

“[W]e are still on track with production of oil. Our schedule is for oil in the first quarter of 1997, and testing of the log washer with its ancillary fines reduction equipment will occur in December and January. Plus we are within our budget ... [W]e plan to establish our pipelineable crude product by the fourth quarter of 1997, using a hydrovisbreaker ... [A]s to the oil itself, the quality of the oil is exactly as currently being marketed by Gibson in the market.”

In response to a question as to whether Gibson had made any financial commitment, Mr. Campbell said, “Gibson is, in fact, moving forward towards securing equipment” for the purpose of moving Solv-Ex’s product to market. This was a false statement and Gibson had no marketing agreement with Solv-Ex and never indicated it was procuring such equipment. (To the contrary, since a pipeline was proposed for the area in the near future, Gibson concluded a substantial investment in trucks was not prudent.) Indeed, with the possible exception of the forward looking statement regarding fourth quarter production, there was no factual basis for any of these statements.

34. During the December 3, 1996 conference call, Mr. Rendall also stated that “we have a \$13 million contingency to keep to our original oil production schedule.” He further stated, “... please remember that the successful operation of our plant in the first quarter is planned to bring in a revenue stream of \$1 million per month, rising to \$4

million by the third quarter.” Also during the December 3, 1996 conference call, Mr. Rendall stated, “... we plan to establish continuous operation of three logwashers, two of which will be installed in December of this year.” Exs. 831, pp. 1, 2, 3; 30.

35. In contrast to these public statements, the internal Solv-Ex objective as of December 1996, as communicated by Mr. Rendall to company personnel, was only to install one of the logwasher trains, and demonstrate that it could be operated to produce bitumen in some amount or separate some amount of bitumen from sand by the end of March 1997. As of mid-December 1996, portions of only one logwasher train were on site. Ex. 30; Fox trial testimony.
36. In January or February of 1997, Mr. Campbell first began negotiating an actual contract allowing Solv-Ex to sell filtered bitumen to Gibson.
37. On January 8, 1997, Solv-Ex reported on tests of the 4-inch filter on Lease 5 bitumen at the Albuquerque pilot plant; these tests revealed various operational problems and failed to produce bitumen meeting the .5% solids specifications. Exs. 111, App. B; 113.
38. In the January 10, 1997 conference call, Mr. Rendall stated Solv-Ex’s objectives for 1997, among which were “establishing the capacity of one logwasher in the first quarter of 1997.” Ex. 832, p. 1. He also stated:

Around the middle of February, when the plant is available for testing, we intend to test it with twelve test runs. We have defined the conditions of each test run. That would involve about 500 barrels a day initially, in February. Once we establish

the conditions for continuous testing, we expect in March to be running at the rate of about 100,000 barrels a month.

Ex. 832, p. 5.

39. In a January 10, 1997 conference call with investors, securities analysts and broker-dealers, Mr. Rendall reiterated that “[t]he full plant is expected to be completed around the middle of February for testing, and continuous production is planned for March.”

Ex. 31, p. 10.

40. In the January 21, 1997 press release, Solv-Ex stated that it is “well positioned to achieve its objectives ... and is moving towards production of oil (bitumen) during the first quarter of 1997 from a plant currently under construction on its oil sands lease in Alberta.” Ex. 835, ¶¶ 7-8.

41. In the February 10, 1997 conference call, Mr. Rendall disclosed the present status of the oil extraction plant:

Originally, we had planned to test the unit, extraction unit, which is in place, in February. We now have decided to move forward to the complete plant being available for shakedown and production in a continuous basis as a more appropriate way in which to handle this plant. The plant is a big plant, needs to be shaken down, and started up and not stopped. We have a team up there in training so that when the startup and shakedown occurs, we’re ready for it. March for startup.

Ex. 839, p. 1 (¶ 10). Mr. Rendall further stated, “What we have to establish in the first quarter [is] that the equipment is lined up to produce the oil [and that] will produce

a marketable oil. We are very confident the process works, and it works remarkably well. We just have to shake down the equipment to establish it.” Id., at p. 5.

42. In fact, there was no reliable basis to conclude the process worked at the production level. Most of the full scale equipment had not even been installed, much less operated to actually produce a product. Mr. Rendall was also aware that the filtration problems continued and no bitumen meeting Gibson standards had been produced.
43. In the February 25, 1997 conference call, Mr. Rendall voiced his opinion that “this thing will run immediately” and “[w]ithin a day I’ll be producing good oil,” but “it’s not a fact until I do it.” Ex. 842, p. 7 (¶ 5). Also, he reiterated the goal of “[m]arketable oil by the end of the first quarter.” Id., at p. 2 (¶ 9).
44. In the March 6, 1997 press release, Solv-Ex stated that it “expects to commence oil production from its first-stage plant in Alberta before the end of March 1997.” Ex. 846, ¶ 1. According to the project manager, Steve Lane, “all equipment required for primary extraction of heavy oil (bitumen) is in place and work is proceeding on schedule to complete final electrical, piping and instrument installations.” Id., at ¶ 2.
45. On March 29, 1997, Solv-Ex personnel attempted the first test of the equipment at the Solv-Ex Lease 5 site. Ex. 111, App. F. At a very early point in the March 29, 1997 test of the Alberta plant, Solv-Ex personnel determined that modifications in the water circulation and clarification circuit at the Alberta plant would be needed to achieve continuous operations. Ex. 111, App. F. As of March 29, 1997, no installation of

automatic instrumentation to record temperature, steam pressure and flow rates during the bitumen extraction process had been completed.

46. During the March 29, 1997 test, settling and build-up of solids occurred in the pump box, a component of the logwasher train, in an amount significantly greater than anticipated. Ex. 111, App. F. Due to the build-up of fine particle solids, the filters were “blinded” and the logwasher had to be shut down after just 12 hours of operation. Ex. 111, App. F; Fox trial testimony. Messrs. Campbell and Rendall were both aware the filtration problem had forced the shutdown.
47. Mr. Campbell told Mr. Rendall the NASDAQ and others were expecting bitumen production by the end of March, so they better issue a statement. After numerous conversations over the weekend with Mr. Rendall, who was at the Lease 5 site, Mr. Campbell drafted a press release at 6:00 a.m. on March 31, 1997 and faxed it to NASDAQ. Solv-Ex announced that “bitumen production had commenced” at its Lease 5 oil plant. Ex. 35A.
48. In an April 7, 1997 conference call, Mr. Rendall stated, “... we have produced oil in a commercially-sized module on our lease in the Athabasca oil sands of Canada.” He represented the plant as “operational.” He concluded, “Our oil process works in a commercially-sized module.” Ex. 851.
49. On April 15, 1997 Solv-Ex announced it had “placed” \$22 million in debentures which could be converted into Solv-Ex common stock. Ex. 853.

50. Following several unsuccessful attempts during early April 1997, Solv-Ex personnel first obtained a measurable amount of filtered Solv-Ex bitumen at the Lease 5 plant using the 24-inch prototype filter on April 21, 1997. Exs. 108, 110, 111; Fox trial testimony.
51. The first successful filtration occurred on April 21, 1997, and the amount of filtered bitumen Solv-Ex produced through the use of the 24-inch prototype Mott filter was only two 55-gallon drums. It could not be duplicated again. Ex. 110; Fox trial testimony.
52. After two to three cycles of operation at Lease 5 on April 21, 1997, operational problems developed with the logwasher circuit which again required that the system be shut down. Ex. 111, p. 11
53. In the April 30, 1997 press release, Solv-Ex reported it was “pleased with the initial testing, the primary extraction circuit worked well in the commissioning process [and] that testing would now be focused on the bitumen cleaning system which follows primary extraction.” Ex. 854, ¶ 4. It was also stated the quality of the bitumen produced in primary extraction to date is better than expected. The press release further stated that “we do not believe we will have difficulty in producing on a continuous basis bitumen which meets market specifications. Our objective is to... be in continuous operation by the end of May.” Ex. 36.



54. Following the March 29, 1997 start-up of the Lease 5 logwasher, both Messrs. Campbell and Rendall knew Solv-Ex operated the logwasher only for isolated test and demonstration runs of no more than six hours.
55. Solv-Ex was never able to sustain continuous operation of the logwasher at the Alberta plant.
56. Solv-Ex never finalized any marketing agreements with Gibson for any bitumen product from Lease 5.

### **Minerals**

57. In 1994, Solv-Ex announced it had discovered that it could produce bitumen from Athabasca tar sands by a process which did not use solvents and did not generate toxic tailings.
58. In a further effort to ameliorate the environmental impact of mining bitumen, Solv-Ex obtained more than 100 tons of toxic fine tailings (commonly known as sludge) generated by the nearby oil sands processing plant operated by Suncor. Ex. 776, p. 2. From 1992 through 1994, Solv-Ex conducted several laboratory and pilot plant tests on these tailings and discovered the potential to extract and produce minerals and synthetic minerals from them and detoxify the tailings for acceptable land fill. Ex. 785, p. 4. Solv-Ex also conducted mineral tests on the fine clay derived from the oil sands from Lease 5 for gold, titanium, and other extracts. Exs. 502-504, 525, 548-550, 729, 732.

59. In August 1993, Solv-Ex announced that the initial phase of testing and evaluation of its program for commercial recovery of metals had been completed by processing about 100 tons of Suncor tailings pond sludge.
60. Soon thereafter, Solv-Ex announced its ability to produce a “unique” form of aluminum oxide (commonly called “alumina”) from the oil sands clays. Exs. 11, 33. The alumina would be extracted as a by-product from the tailings produced from processing the bitumen. Solv-Ex touted this form of “co-production” as being both more environmentally friendly and economically successful than existing methods of bitumen extraction. From at least 1994 to 1999, Solv-Ex made a concentrated effort to make a type of aluminum oxide that was suitable for making metallic aluminum.
61. On October 5, 1993, Solv-Ex announced that roasting of the double salts in the process of producing the alumina generated an intermediate product which had properties suitable for insulation. In January 1997, the company announced it had been issued a patent for this insulation including shaping it into rigid forms. Ex. 32. It was never produced.
62. By December 1994, Solv-Ex had completed the feasibility study that provided a complete technical and financial description of the project. Ex. 506. The feasibility study: (i) defined the design for a co-production facility on Lease 5 to produce 10,000 barrels per day of pipelineable crude oil (“PCO”) and 64,000 tons per year of alumina to be custom smelted and sold as aluminum; (ii) provided detailed estimates of capital

and operating costs for the facility (together with projected revenue streams); and (iii) provided a comprehensive analysis of the project as a whole to determine the amount of financing for the project. Ex. 506, pp. I-3, 5-2. Solv-Ex estimated the capital cost of the oil extraction facility at \$95 million and the mineral processing plant at \$25 million. Ex. 506, p. 5-1.

63. The feasibility study stated that it would be subjected to a two-part technical and financial audit in early 1995. The Pace Consultants, Inc. ("Pace"), an independent consulting firm with expertise in hydrocarbon processing and marketing, was retained to review the bitumen extraction and PCO production sections of the plant. Ex. 508. Cumming Cockburn, Ltd. was retained to update its January 1994 financial and technical audit for the minerals processing portion of the co-production facility. Ex. 550.
64. Subsequent research further showed that basic potassium aluminum sulfate ("BKAS") could be produced from the clay residue tailings as yet another intermediate product in the production of alumina. Exs.. 549, 589, 596, 602-603, 637A, 638. Solv-Ex compared, and attempted to market, its BKAS as similar to a naturally occurring mineral, Titanium Dioxide ("TiO<sub>2</sub>"), the "Rolls Royce" of paper coating and fillers. Solv-Ex therefore renamed the synthetic mineral "Titanium Dioxide Substitute or TiO<sub>2</sub>S." Natural Titanium Dioxide displays superior optical qualities, and consequently sells for roughly \$2,000 per ton, compared to much lower prices for

other common pigments, such as calcined kaolin (\$550 per ton) and precipitated calcium carbonate ("PCC") (\$150-200 per ton). Ex. 52, pp. 5-16. Solv-Ex commissioned various tests to show this synthetic mineral had potential applications as a filler in the production of photocopy paper, glossy paper, ink, plastic and coatings. Exs. 653, 692, 699, 701-702.

65. A September 26, 1995 press release stated that Solv-Ex "possesses co-production technology capable of recovering the full range of marketable mineral products also known to be contained in the Athabasca oil sands." Ex. 781, ¶ 7.
66. In pursuit of other potential applications of TiO<sub>2</sub>S, Solv-Ex commissioned testing resulting in a report from D.L. Laboratories ("D.L. Labs"), dated July 26, 1996. By September 1996, only minimal quantities of TiO<sub>2</sub>S had been tested by this outside lab, D.L. Labs, for possible use as a paint additive. Exs. 60; 567. The first test by D.L. Labs showed that the TiO<sub>2</sub>S sample did not grind well enough to be acceptable. Ex. 567. The report of D.L. Labs' second test cited the determination that TiO<sub>2</sub>S "cannot be readily incorporated into [paint] coatings formulations." Ex. 60. D.L. Labs recommended substantial further study. Ex. 588, p. 4.
67. In June 1996, Solv-Ex also had TiO<sub>2</sub>S evaluated by Utility Development Corporation. ("UDC") as a potential filler for plastics. UDC reported that the Solv-Ex product appeared to serve as a potentially acceptable filler in certain plastic application trials, but recommended different surface treatments so that the product could be a cost

effective competitor. It also recommended that Solv-Ex evaluate finer particle size. Exs. 46, 587.

68. In a September 5, 1996 conference call, Mr. Rendall stated that “[i]n terms of paint [TiO<sub>2</sub>S] meets the specifications. In the case of fillers for [plastics] resins, it also does.” Ex. 816. There was no factual basis for these statements.

69. In a September 6, 1996 press release, Ex. 22, the company announced:

Progress has been excellent in development of markets for the products which can be produced from the fine clays, particularly in view of continued testing of the new Solv-Ex cell for production of electrolytic aluminum and independent testing to date of a potassium-based synthetic mineral which appears quite suitable for the huge filler markets in paper, paint and plastics.

Solv-Ex said that it continues to believe that the fine clays represent a source of minerals and metals which greatly exceed the value of the oil contained in the oil sands and that the tailings can become a tremendous asset rather than a major item of environmental controversy. It has been publicly estimated that more than a billion tons of the tailings, which many observers consider to be highly toxic, will be in place by the year 2010, much of which is in close proximity to the Athabasca River.

At the time of this press release, Mr. Rendall knew the testing of TiO<sub>2</sub>S by D.L. Labs had shown it to be unsuitable for plastic applications and there was no basis to conclude it was “quite suitable” for the paint markets. Mr. Campbell prepared the press release.

70. Pilot plants to produce paper pigments typically cost several million dollars to construct, and must have a capacity of approximately 250 liters. The purpose of the

pilot plant is to produce tanker-truck-sized samples, each of some 15 to 20 tons in size, for field trials by paper manufacturers. Gann trial testimony. Solv-Ex attempted to scale up its production of TiO<sub>2</sub>S in its pilot plant in spring 1997 and to meet specific requirements for particle size. Ex. 72; Metcalf I 95-96, 96-97. Solv-Ex was not successful in its attempts to produce TiO<sub>2</sub>S at the required particle size at the pilot plant level. Ex. 72; Metcalf I 95-96.

71. As of fall 1996 and continuing to at least March 1997, Solv-Ex's Albuquerque pilot plant equipment was only capable of making 50 to 100 pounds of TiO<sub>2</sub>S per day. Nielsen 304.
72. The TiO<sub>2</sub>S that Solv-Ex produced in its pilot plant reactors had too large a particle size for its anticipated industrial applications. Metcalf I 112-113; Nielsen 160-161, 263. Solv-Ex's attempts to reduce the particle size of TiO<sub>2</sub>S by grinding it with its own laboratory equipment were not satisfactory. Nielsen 160. Although grinding equipment was shown in flow sheets for the proposed minerals plant in Alberta, Solv-Ex never installed grinding equipment in its Albuquerque pilot plant. Nielsen 263, 315.
73. In May 1996, a Solv-Ex consultant, Dr. George Ionides, issued the "Papermaking Pigments Market Study" to define potential markets for papermaking pigments in the regions of North America which could be economically served by the Solv-Ex mineral pigment production plant in Alberta. After interviews with four senior paper/pigment

industry technical experts, Dr. Ionides concluded that TiO<sub>2</sub>S should sell in the range of \$600 - \$800 per ton. Exs. 657, p. 5-16; 662, pp. 1-2. Mr. Rendall testified it could be produced for about \$200 per ton.

74. Dr. Ionides arranged for TiO<sub>2</sub>S to be tested in papermaking trials by William Forester at Western Michigan University ("WMU"). Solv-Ex tested 400 to 450 pounds of TiO<sub>2</sub>S as a paper filler in formulations for two types of paper on October 2 and 3, 1996 (the "October trial"). Because the amount of TiO<sub>2</sub>S retained in the uncoated woodfree paper had not reached his target level, and were thus inconclusive, Dr. Ionides requested that WMU re-run that trial according to instructions provided by him. Ex. 54. Subsequent tests were scheduled for November.
75. During the subsequent November trial, the sheet was very "soft" and strength suffered. Ex. 56 The lack of strength was reflected in some breaks in the paper made with the TiO<sub>2</sub>S filler. Forester 22. During the November trial, the poor retention of the TiO<sub>2</sub>S also caused a large build-up of the TiO<sub>2</sub>S filler on the wet end of the paper machine and thus excessive foam. Ex. 56.
76. After the November trial, Mr. Forester recommended further testing to determine how to regain the paper strength lost from the addition of the TiO<sub>2</sub>S. Ex. 56. Mr. Rendall was aware of Mr. Forester's November 4, 1996 recommendations.
77. On or about November 20, 1996, Solv-Ex and Raisio Chemicals ("Raisio"), an international distributor of chemicals, entered into a letter of intent for the purpose of

conducting additional tests on TiO<sub>2</sub>S. Ex. 698, p. 1. The alliance between Solv-Ex and Raisio was announced in Solv-Ex's November 27, 1996 press release. Ex. 830, ¶ 1. The press release stated that "the alliance with Raisio contemplated an aggressive testing schedule which could accelerate plans for commercial production if testing proceeds in line with expectations." Ex. 29.

78. In a December 3, 1996 conference call, Mr. Rendall stated:

(TiO<sub>2</sub>S) has similar characteristics to titanium dioxide pigment, including its light-scattering properties.

With a view to securing the highest value for this product (TiO<sub>2</sub>S) which is in coatings for high quality paper, the company has embarked on an aggressive market-driven program with Raisio Chemicals. Thousands of pounds of product from our test center in Albuquerque will be used in various coating formulations in Raisio's multimillion-dollar facilities to produce high-quality paper in the first quarter of 1997. Based on successfully reaching our objectives, the second quarter will involve paper mills, and the third quarter should see hundreds of tons of product from Lease 5 commercially used to secure long-term contracts for continuous production in the fourth quarter of 1997.

Ex 831, p. 1 (¶¶ 7-8).

79. As of January 1997, Raisio merely had performed an "initial evaluation" of but three minute 400-gram samples of TiO<sub>2</sub>S as an additive in paper coatings and the Albuquerque test plant did not and could not produce the "thousands of pounds of product" Mr. Rendall had represented would be tested in the first quarter of 1997. Ex. 58 .



80. In the January 31, 1997 press release, Mr. Rendall stated that Solv-Ex's "target is to be in construction of the minerals extraction plant during the first half of 1997 and achieve production before the end of the year." Ex. 837, ¶ 4.
81. In the February 10, 1997 conference call, Mr. Rendall disclosed the plans for production of TiO<sub>2</sub>S at the rate of one ton per month at the Albuquerque pilot plant for testing from April or May, 1997. Ex. 839, p. 6 (¶ 3).
82. As of August 1997, Solv-Ex had not even settled on a final plan for the configuration of a plant to make industrial minerals. Nielsen 107-108, 109.
83. Solv-Ex never determined a filler or coating application to which TiO<sub>2</sub>S should be targeted. In the absence of such a target Solv-Ex could not determine what specifications TiO<sub>2</sub>S would have to meet, much less determine how to achieve such specifications.
84. Solv-Ex never even finalized, much less implemented, a reliable cost-effective means of reducing the particle size of TiO<sub>2</sub>S to meet the requirements for paper applications. Exs. 61, 63, 590, 604, 606.
85. Solv-Ex's pilot plant never made a large enough quantity of TiO<sub>2</sub>S to conduct the necessary production-scale tests. Nielsen 85-86, 211; Metcalf II 185-186.

### **New Method of Aluminum Production**

86. In the February 21, 1995 press release, Solv-Ex announced that Pat Davey, a longtime international consultant for aluminum projects of Kaiser Aluminum Corporation, had

joined the board of directors to head development of the production of aluminum from the alumina produced by Solv-Ex at the co-production plant in Alberta, Canada. Ex.

764. In the press release Mr. Davey is quoted as saying:

The alumina produced using the Solv-Ex technology is extremely high quality and can offer significant opportunities, as well as production efficiencies and environmental benefits, for existing smelters. The possibility of further expanding our horizons through use of this alumina in a new type of electrolytic cell is particularly exciting ....

In that press release Solv-Ex also disclosed:

For about a year, work has been under way at Solv-Ex on new cell design and technology, which has been demonstrated at laboratory scale. Patent applications have been filed, and Solv-Ex plans to build and operate a cell capable of producing one to two pounds of aluminum per hour at its Albuquerque pilot plant.

87. In a presentation at a professional conference held on April 3, 1995, Solv-Ex described the general process of how alumina could be produced from clays contained in the Athabasca oil sands. Ex. 765. The proposed 10,000 barrel per day Solv-Ex oil facility was to produce between 64,000 to 100,000 tons per year of such alumina. Id., at p. 3 slide 23 (at p. 588031).

88. In a May 8, 1995 conference call, Mr. Rendall stated:

[W]hat I'm doing now is lining up the pilot plant here to produce one to 200 pounds an hour of alumina, and one to 200 pounds an hour of other products. So that I've got it market in tonnage, so that when I kick off the sludge project at the end of this year, I have sold everything, and this solves cash flow problems.

Ex. 767, p. 6.

89. In the June 5, 1995 conference call, Mr. Rendall stated that Solv-Ex is on track for the alumina project and that the production goals remain unchanged. Ex. 771, p. 4.
90. In the August 1, 1995 Management Letter to Shareholders, Ex 776, p.2, Mr. Rendall summarized the projected plan for the Synthetic Minerals Plant:
- Up to 100,000 tons per year of alumina products
  - Up to 200,000 tons per year of synthetic minerals from waste
  - Capital estimated at \$20 million for initial production - expansion at \$15 million
  - Marketing of synthetic minerals by ITC Corp.
  - Cash flow in early 1996
  - Complete review and audit of feasibility by Cumming Cockburn, Ltd.
  - Projected operating costs of \$25 per ton for all products
  - Permits expected in September
  - Experienced project management in place
91. In late 1994, Solv-Ex tested a prototype cell to manufacture industrial grade aluminum from the alumina extracted from the Athabasca clay. The test proved the process was feasible and Solv-Ex decided to upscale to the larger lab size version.
92. On August 2, 1995, the Solv-Ex aluminum team completed the “Start-up and Operating Procedures” for a “2700 Ampere Pilot Cell.” Ex. 755. The overall purpose of the test was to determine whether Solv-Ex alumina, through electrolysis, could produce metallic aluminum at that scale. The purpose of this prototype cell was to determine whether Solv-Ex alumina (produced from Lease 5 tailings) could produce metallic aluminum at 750°C in a more efficient vertical configuration of the anodes and at approximately 200°C lower than the temperature needed in a recognized

commercial cell. Both of these would be major breakthroughs in the production of aluminum as a large part of the cost of current production derives from the costs of anode replacement and electricity.

93. On or about December 8, 1995, the Solv-Ex aluminum cell team attempted to start the prototype electrolytic cell, but they were not able to reach a high enough temperature with internal heaters to process the Solv-Ex alumina and canceled the experiment after 48 hours. Vondrak Ex. 4, Ex. 1082.
94. The stated objectives of the test were:
- i. To verify that electrolysis of an Alumina suspension in an alumina saturated low-temperature eutectic NaF-AlF<sub>3</sub> electrolyte is practicable on a large scale.
  - ii. To operate the Pilot Cell to develop operating parameters and procedures.
  - iii. To determine the physical and electrical characteristics of the electrolyte.
  - iv. To determine the effect of electrolyte composition and contained alumina variations on cell operation.
  - v. To determine material losses and air pollution control requirements.
  - vi. To determine production efficiencies.
  - vii. To verify cell and electrode construction, heat balance and electrode life.
  - viii. To develop a non-consumable anode.

Ex. 755, p. 1 While the team arguably had some very limited success on (i) and (ii), the remaining goals were not even partially met. Vondrak pp. 86-91.

95. In the August 28, 1995 press release, Solv-Ex announced that it had entered into a memorandum of understanding with Glencore, Ltd. (the world's largest trader of metallurgical grade alumina) for initial marketing of metallurgical grade alumina to be produced from oil sand tailings on Solv-Ex Lease 5. The announced agreement contemplated a \$10 million advance to assist in project financing. Ex. 778, ¶ 1. However, no advance was ever made as definitive agreements were not reached by the October 31, 1995 deadline. Ex. 783, ¶ 2.
96. In the 1995 Form 10-K, Solv-Ex announced that "[t]here was no assurance that the Glencore memorandum of understanding would be completed or completed on the terms (originally contemplated)." Ex. 863, p. 12, ¶ 5. Solv-Ex also disclosed (*id.*, at pp. 10, ¶5; 13, ¶ 3):

Work performed ... at (its) Pilot Plant has resulted in production of alumina which meets specifications for metallurgical grade alumina ... through standard ... processes. Evaluation of the Company's process by both independent consultant and sources with the alumina/aluminum industry has confirmed the ability to achieve these results within projected operating costs.

\* \* \* \*

Although considerable work must be performed to determine total feasibility of the process (for producing aluminum metal [as opposed to alumina]), the results of testing to date have been very encouraging and the Company has applied for patents with respect to the new process. (Emphasis added).

97. On January 18-19, 1996, Solv-Ex again attempted to operate the prototype electrolytic cell. Solv-Ex began heating the cell on January 18, 1996, and the heating system again

- failed. Ex. 75. Solv-Ex shut down the cell after the cell began leaking electrolyte a second time, the cell experienced arcing (electrical shorting through sparks), and the cell temperature dropped too low. Vondrak p. 65; Ex. 75, pp. 533002, 533004-5; Kennedy p. 42.
98. Solv-Ex shut down the cell to prevent the cell from damaging itself through the arcing and cooling. Kennedy pp. 45-45. The copper anodes used in the prototype cell were destroyed during the test. Ex. 76, pp. 534002, 534004, 534008; Kennedy p. 86.
99. At the time of the test and during the autopsy of the cell, Solv-Ex was unable to objectively confirm that the prototype electrolytic cell produced any aluminum during the test. Vondrak pp. 90-91; Exs. 76, pp. 534012-13; 757 Strahl letter.
100. Had the test of the prototype 2700 ampere electrolytic cell been a success, the process engineer at Solv-Ex would have recommended the building and testing of a prototype 10,000 ampere cell. Vondrak pp. 94-95. Rather than advancing to the 10,000 ampere cell, however, after the test of the prototype 2700 ampere electrolytic cell, the process engineer and chemical engineer at Solv-Ex jointly proposed reducing laboratory tests on the cell back to laboratory bench scale. Vondrak p. 91; Ex. 76, p. 534013.
101. The summary section of Solv-Ex's internal autopsy report on the cell test states that the "[a]utopsy of the 2700 Ampere Pilot Cell indicated serious problems in the materials used and construction of the cell." Ex. 76, p. 534002. A letter attached to the internal autopsy report states that "[t]he existing cell design served its purpose in showing how

difficult it is to design a new process without fully appreciating its complexity. We have learned that both the materials of construction used and the existing design are incapable of sustained operation.” Ex. 76, p. 534010.

102. The outside expert, Dr. Erwin Strahl, retained by Solv-Ex to create and control the electrolyte bath in the cell, concluded “as a result of our testing to date and the autopsy observations, some very fundamental problems need to be readdressed.” Ex. 757.
103. Solv-Ex issued a February 26, 1996 press release stating, among other things, that “[f]inally, our new cell for commercial operations (which will now be proven in the field) involves panels of about 6’0” x 6’0” compared with the approximate 2’0” x 2’0” panels we are currently working with in Albuquerque. The scale up factors are quite reasonable.” Ex. 13, p. 3. There was no factual basis for this statement.
104. Solv-Ex then issued a March 11, 1996 press release stating, “The primary mineral of interest in the clays is alumina, and Solv-Ex announced in January 1996 that it had successfully tested a new design of an electrolytic cell to produce aluminum metal from the alumina.” Ex. 14 (emphasis added). By any objectively reasonable definition of “successful,” this was untrue.
105. In an August 26, 1996 letter to Solv-Ex shareholders, Mr. Rendall wrote that “[w]e have made further progress since the cell was first tested successfully in January of this year and we see no ‘show-stoppers’ in proceeding to installation of one or more

- commercial cells as soon as the mineral extraction technology has been demonstrated on a commercial basis.” Ex. 20.
106. In the September 5, 1996 conference call, Mr. Rendall stated that “[w]e are getting the aluminum cell working continuously. We have proven out a dimensionally stable anode. We intend next year to have a prototype working to put up a commercial plant.” Ex. 816, p. 6 (¶ 12).
107. In the September 10, 1996 press release, Mr. Rendall stated that Solv-Ex received a patent for the new electrolytic cell first “successfully” tested in January 1996. Ex. 818, ¶ 1. He also stated that Solv-Ex had made “significant headway in confirming the ability to utilize non-consumable anodes on a consistent bases.” Id., at ¶ 2.
108. In the December 3, 1996 conference call, Mr. Rendall stated, “We have further developed an aluminum cell to the stage of continuous production with a nonconsumable anode at bench scale.” Ex. 831, p. 2.
109. Solv-Ex never found or successfully developed a non-consumable anode for production of metallic aluminum. Kennedy pp. 91-92.
110. Rendall, Campbell and Solv-Ex never disclosed to the investing public that after the test of the prototype 2700 ampere cell, Solv-Ex scaled back its testing to laboratory scale.
111. Solv-Ex’s 10-K and amended 10-K for the period ending June 30, 1996 contained misleading statements regarding the status of Solv-Ex’s aluminum reduction cell testing and technology. Exs. 40, 40a.



## **Summary**

112. John Rendall had a dream to revolutionize the two industries in which he had worked: bitumen extraction and aluminum production. That dream blinded him to impediments to the fulfillment of that dream. When confronted with negative results, “he would have a tendency to ignore that information or work around it or repeat the experiment over and over and over again.” Metcalf p. 221.
113. Collectively read, the press releases, shareholder letters, and other statements, which Defendants disseminated on a virtually weekly basis, created the false impression that Solv-Ex was on the verge of generating revenues from each of the three technical areas described above. In fact, the evidence demonstrates that at the time these statements were disseminated, Solv-Ex was in various stages of research and development with respect to each of those three technologies, but that commercial exploitation of any of them was never more than a theoretical possibility.

## **Conclusions of Law**

1. At all times relevant to the complaint, Solv-Ex was registered with the Commission pursuant to Section 12(g) of the Securities Exchange Act of 1934 (“Exchange Act”).
2. At all times, Solv-Ex was required to file periodic reports with the Commission pursuant to Section 13(a) of the Exchange Act and Rules 12b-20, 13a-1, and 13a-13 thereunder.

3. In enforcement actions the Commission “appears ... not as an ordinary litigant, but as a statutory guardian charged with safeguarding the public interest in enforcing the securities laws.” SEC v. Management Dynamics, Inc., 515 F.2d 801, 808 (2<sup>d</sup> Cir. 1975).
4. This enforcement action involves a pattern of statements issued by a public company and its two key executive officers that created the misleading impression that each of three technologies being developed by the company was a virtually unqualified success. The pattern of these statements created in the mind of any reasonable investor the expectation that commercial exploitation of the technologies, each with an attendant substantial revenue stream, was not only assured, but would occur in the very near future.
5. Section 10(b) of the Securities Exchange Act of 1934 (“Exchange Act”) [15 U.S.C. § 78j(b)] and Rule 10b-5 promulgated thereunder [17 C.F.R. 240.10b-5] and Section 17(a) of the Securities Act of 1933 (“Securities Act”) [15 U.S.C. § 77q(a)] prohibit persons and entities from, among other things, making material misstatements or omitting to state material facts in connection with the purchase or sale of any security. Thomas Lee Hayen, 2 THE LAW OF SECURITIES REGULATION § 13.2 p. 461 (3<sup>d</sup> ed.).
6. A statement is material if a reasonable investor would consider it important in determining whether to buy or sell a stock. Grossman v. Novell, Inc., 120 F.3d 1112, 1119 (10<sup>th</sup> Cir. 1997). “Material facts include those ‘which affect the probable future

of the company and those which may affect the desire of investors to buy, sell, or hold the company's securities.” SEC v. Mayhew, 121 F.3d 44, 52 (2<sup>d</sup> Cir. 1997) (quoting SEC v. Texas Gulf Sulphur Co., 401 F.2d 833, 849 (2<sup>d</sup> Cir. 1968)); see also Folger Adam Co. v. PMI Indus., Inc., 938 F.2d 1529 (2<sup>d</sup> Cir.), cert. denied, 502 U.S. 983 (1991). The statements of corporate officials are of particular importance to investors; the investing public “justifiably places heavy reliance on the statements and opinions of corporate insiders.” In re Apple Computer Sec. Litig., 886 F.2d 1109, 1116 (9<sup>th</sup> Cir. 1989).

7. An omission is material if there is a “substantial likelihood” that either “the omitted fact would have assumed actual significance” in the investment decision or “the omitted fact would have been viewed by the reasonable investor as having significantly altered the ‘total mix’ of information made available.” TSC Indus., Inc. v. Northway, Inc., 426 U.S. 438, 449 (1976).
8. Misrepresentations and omissions concerning the status and success of the development of commercially feasible core technologies for a development stage company having no revenue and no products are facially material. See Kaplan v. Rose, 49 F.3d 1363, 1374 (9<sup>th</sup> Cir. 1994) (misleading to use term “successful” to describe test results generally inconsistent with success); see also SEC v. International Chem. Dev. Corp., 469 F.2d 20, 26 (10<sup>th</sup> Cir. 1972) (material omission that patents were not proven to be commercially feasible).

9. A duty to disclose technical or developmental problems with a product may arise where a company makes strongly optimistic or concrete statements about that product that are in stark contrast to its internal reports. Glassman v. Computervision Corp., 90 F.3d 617, 635 (1<sup>st</sup> Cir. 1996); Kaplan, 49 F.3d at 1374 (defendant's use of term "successfully" to describe test results was inconsistent with common understanding of the term without more information). The duty to speak the full truth thus arises when Defendants make affirmative representations. Rubinstein v. Collins, 20 F.3d 160, 170 (5<sup>th</sup> Cir. 1994).
10. Representations pertaining to future events can be the basis for a fraud prosecution when the defendant knows there is no reasonable factual basis for the representation. Bloomenthal and Wolff, 3D SECURITIES AND FEDERAL CORPORATE LAW § 20:4 p. 20-5 (1999), citing *inter alia*, Holmes v. United States, 134 F.2d 125 (8<sup>th</sup> Cir. 1943); see also In re Medimmune, Inc. Sec. Litig., 873 F. Supp. 953 (D. Md. 1995). Even though not misleading when made, a subsequent development may trigger a duty to correct overly optimistic predictions. Backman v. Polaroid Corp., 893 F.2d 1405 (1<sup>st</sup> Cir. 1990); Kirby v. Cullinet Software, Inc., 721 F. Supp. 1444 (D. Mass. 1989).
11. The Defendants' statements included at least the following material misrepresentations: that commercial-scale production of bitumen oil had begun on March 29 at the Solv-Ex plant in Alberta, Canada; that the testing of a purportedly revolutionary 2700 ampere electrolytic cell used for the production of metallic aluminum had been "successful" and

was therefore going to be scaled up; and that an industrial mineral created from the by-product of Solv-Ex's bitumen extraction technology, TiO<sub>2</sub>S, had been shown to be suitable for certain applications in the paint and plastics industries. Statements regarding the potential for TiO<sub>2</sub>S in the paper industry were largely unproven and therefore overly optimistic.

12. John Rendall was vested with the power to direct and control, and did so, all aspects of Solv-Ex's business and was therefore responsible for Solv-Ex's misleading and incorrect statements in the official filings. As a control person of Solv-Ex pursuant to Section 20(a) of the Exchange Act, Mr. Rendall is directly liable for the company's reporting violations under Section 13(a) and the rules thereunder. See Lanza v. Drexel & Co., 479 F.2d 1277, 1299 (2<sup>d</sup> Cir. 1973) (persons who have actual authority to direct the activities of the primary wrongdoer and have culpable participation in the activities are control persons within the meaning of Section 20(a)). See also Arthur Children's Trust v. Keim, 994 F.2d 1390, 1396-97 (9<sup>th</sup> Cir. 1993) (members of management committee were control persons because they made major business decisions affecting the venture).
13. Herbert Campbell was also a control person and had access to all of the negative tests and consultants' caveats which he chose to largely ignore in drafting the press releases which created a misleadingly optimistic picture of the prospects for each of the three Solv-Ex technologies.

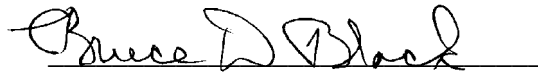
14. Mr. Campbell knew or should have known that the information in Solv-Ex's filings was false or misleading. Even had his role at Solv-Ex been limited to that of corporate counsel, however, Mr. Campbell's conduct would be recklessly violative of the federal securities laws. Rubin v. Schottenstein, Zox & Dunn, 143 F.3d 263, 267 (6<sup>th</sup> Cir. 1998) ("[T]here is nothing special about [the defendant's] status as an attorney that negates his Rule 10b-5 duty to disclose, a duty that ordinarily would devolve under Rule 10b-5 upon a third party under these circumstances .... An accountant or lawyer, for instance, who prepares a dishonest statement is a primary participant in a violation.") (citing SEC v. Coffey, 493 F.2d 1304, 1315 (6<sup>th</sup> Cir. 1974)).
15. When management and directors are parties to a securities fraud, the test as to causation is whether the facts not disclosed or disclosed in a misleading fashion significantly altered the total mix of information available. IIT, an Int'l Inv. Trust v. Cornfeld, 619 F.2d 909 (2<sup>d</sup> Cir. 1980). The false statements by the Defendants and their failure to disclose the full test results and reports of their consultants significantly altered the total mix. The Defendants' repeated issuance of press releases, which stated only the positive aspects of such tests, misled the investing public.
16. Solv-Ex, Rendall, and Campbell used the means or instrumentalities of interstate commerce to disseminate false and misleading statements.
17. Solv-Ex, Rendall, and Campbell knew, or were reckless in not knowing, several of the material statements they issued were false and misleading.

18. Solv-Ex filed materially false periodic reports with the Commission, and filed reports with the Commission that, in addition to the information expressly required to be included in the report, failed to include such further material information as was necessary to make the required statements, in the light of the circumstances under which they were made, not misleading.
19. Solv-Ex, Rendall, and Campbell violated Section 10(b) of the Securities Exchange Act of 1934 and Rule 10b-5 thereunder, and Section 17(a) of the Securities Act of 1933.
20. Defendants rely on the “bespeaks caution” doctrine to shield their public statements. The “bespeaks caution” doctrine should be applied cautiously since it provides an incentive to misrepresent the truth. In re Donald J. Trump Casino Sec. Litig.-Taj Mahal Litig., 7 F.3d 357, 371 (3<sup>d</sup> Cir. 1993). The cautionary statements in the Solv-Ex filings do not counterbalance the glowing projections in the Defendants’ press releases and broker conferences. Whirlpool Fin. Corp. v. GN Holdings, Inc., 873 F. Supp. 111, 123-24 (N.D. Ill. 1995); In re Colonial Ltd. Partnership Litig., 854 F. Supp. 64, 92-3 (D. Conn. 1994); In re First Am. Center Sec. Litig., 807 F. Supp. 326 (S.D.N.Y. 1992).
21. There is a reasonable likelihood that the Defendants will engage in future violations unless enjoined.
22. The European “trading program” was never implemented and therefore the restricted stock was never issued, thus no SEC reporting requirements were triggered.

All tendered Findings and Conclusions not incorporated herein are deemed Denied.

A Judgment consistent with these findings of fact and conclusions of law should be drawn up by Plaintiff's counsel and presented to the Court within twenty (20) days.

DATED at Albuquerque this 31<sup>st</sup> day of March, 2000.

A handwritten signature in black ink, reading "Bruce D. Black", written over a horizontal line.

**BRUCE D. BLACK**

United States District Judge

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